

Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed**1.1. Name of the Data, data collection Project, or data-producing Program:**

2009-2010 USACE Vicksburg District Lidar: Mississippi Phase II

1.2. Summary description of the data:

Phase two will consist of post processing of the data collected. Aeroquest Optimal, Inc. shall

process the digital elevation data from a precision airborne (LIDAR) survey within the entire

project area. The proposed project area is approximately 6.3 million acres. The purpose of the

survey is to obtain measurements of the bare ground surface, as well as top surface feature

elevation data for providing geometry input to USACE hydraulic modeling program.

This project for USACE, Vicksburg District was to provide digital orthophotography using DMC imagery

for approximately 4,120 square miles located in NW Mississippi at a 2-foot pixel resolution.

Original contact information:

Contact Name: Elijah C. Hunt

Contact Org: U.S. Army Corps of Engineers, Vicksburg District

Phone: (601) 631-7040

Email: elijah.c.hunt@us.army.mil

1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

1.4. Actual or planned temporal coverage of the data:

2009-12-17 to 2010-07-09

1.5. Actual or planned geographic coverage of the data:

W: -90.0886487, E: -88.8334027, N: 34.981004, S: 33.6759277

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
las

1.7. Data collection method(s):

(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:

NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:

coastal.info@noaa.gov

2.5. Phone number:

(843) 740-1202

3. Responsible Party for Data Management

Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

3.2. Title:

Data Steward

4. Resources

Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?**4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):****5. Data Lineage and Quality**

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Process Steps:

- 2010-03-05 00:00:00 - During acquisition, two base stations were used to support the precise positioning and orientation of the LiDAR sensor head. At times an additional base station set at the Oxford Airport was used as a back-up. The base stations were positioned so that the aircraft would be no further than 20-miles from a single base station at any time during the flight and were placed on the control points established by Maptech during the ground control phase of the project. The LiDAR acquisition commenced on December 17, 2009 and was completed on March 5, 2010. Initial processing of the LiDAR data determined that reflights were necessary; in part because of sensor or base station malfunctions. The reflights occurred between June 27, 2010 and July 9, 2010. To achieve better penetration of the vegetation during the reflights, two passes were conducted over the reflight area; one in each direction. Detailed flight information and flight logs can be found in the separate Flight Report submitted with the project.

- For redundancy and accuracy purposes, the airborne GPS data were processed from two base stations using POSGPS from Applanix, Inc. The agreement between a minimum of two solutions checked or combined between a minimum of two stations was better than 10 cm in each of X, Y, and Z. These trajectories were used in the processing of the inertial data. The inertial data were processed using POSProc from Applanix, Inc. This software produces an SBET ("smooth best estimate of trajectory") using the GPS trajectory from POSGPS and the roll, pitch and heading information recorded by the POS (Position Orientation System). DASHMap uses the SBET to generate a set of data points for each laser return in the LAS file format. Each data point is assigned an echo value so it can be segregated based on the first and last pulse information. This project's data were processed in strip form, meaning each flight line was processed independently. Processing the lines individually provides the data analyst with the ability to QC the overlap between lines. Each strip was then imported into a project using TerraScan (Terrasolid, Ltd.) and the project management tool GeoCue (GeoCue Corp.). By creating a project the various flightlines are combined while breaking the dataset as a whole into manageable pieces. This process also converts the dataset from the geographic

coordinate system (NAD83) to the State Plane Coordinate System (NAD83), Mississippi West, Feet, and utilizing standard ESRI transformations. The ellipsoid height values were converted to NAVD88, Feet, orthometric values using Geoid03, provided by NGS. Individual lines were then checked against adjacent lines and intersecting control lines to ensure a cohesive dataset. The data from each line were then combined and LiDAR intensity images were produced to visually check the horizontal positioning of the LiDAR data. Stereo pairs were generated from the LiDAR intensity data using Geocue and LiDAR1CuePac (Geocue Corp.). LiDARgrammetry was then utilized to collect breaklines where necessary along hydro features to support the contour generation. These breaklines were collected as a 3D element in the MicroStation (Bentley Systems, Inc.) environment utilizing ISSD (Z/I Imaging). A Triangular Irregular Network (TIN) was generated using the final surface data. Contours were then created from the TIN utilizing TerraModeler (Terrasolid, Ltd.).

- 2013-12-20 00:00:00 - The NOAA Office for Coastal Management (OCM) received topographic files in text format from the Mississippi Department of Environmental Quality (MDEQ). The files contained lidar easting, northing and elevation. The data were received in Mississippi State Plane West 2302, NAD83 coordinates and were vertically referenced to NAVD88 using the Geoid03 model. The vertical and horizontal units of the data were feet. OCM performed the following processing for data storage and Digital Coast provisioning purposes: 1. The ASCII files were converted from txt format to las format using LASTools' txt2las 2. The LAS tiles were retiled to remove the buffer, then duplicate points were removed 3. The LAS tiles were then run through LASGround in order to extract surface classifications. 4. The las files were converted from orthometric (NAVD88) heights to ellipsoidal heights using Geoid03. 5. The las files' vertical units were converted from feet to meters, removing bad elevations. 6. The las files were converted from a Projected Coordinate System (MS SP West) to a Geographic Coordinate system (NAD83) 7. The las files' horizontal units were converted from feet to decimal degrees and converted to laz format.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:

- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
 - 7.1.1. If data are not available or has limitations, has a Waiver been filed?
 - 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

<https://www.fisheries.noaa.gov/inport/item/49818>

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with

limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

NOAA Office for Coastal Management (NOAA/OCM)

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:

<https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=2600>

https://coast.noaa.gov/htdata/lidar1_z/geoid18/data/2600

7.3. Data access methods or services offered:

This data can be obtained on-line at the following URL:

<https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=2600>

;

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:

(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):

Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.